

IN THE CLAIMS

1. (Currently amended) A method of simulating the operation of at least one switch fabric comprising a plurality of integrated circuits of a designated chip set, utilizing a software-based development tool, the method comprising the steps of:

providing in the software-based development tool an interface permitting user control of one or more configurable parameters of the switch fabric; and

automatically generating a simulation configuration for the switch fabric based on current values of the configurable parameters;

the simulation configuration being generated without requiring further user input;

the simulation configuration specifying interconnections between the integrated circuits which satisfy the current values of the configurable parameters;

wherein the one or more configurable parameters of the switch fabric comprise one or more configurable parameters of each of the integrated circuits and one or more configurable parameters of a base device specified for the designated chip set;

wherein each integrated circuit of the designated chip set corresponds to a specified ingress device, a specified cross-connect device or a specified egress device; and

wherein the one or more configurable parameters of a given integrated circuit are determined by the correspondence of the given integrated circuit to the specified device.

2. (Canceled)

3. (Previously presented) The method of claim 1 wherein the at least one switch fabric comprises at least one multistage switch fabric.

4. (Previously presented) The method of claim 3 wherein the integrated circuits comprise at least two ingress devices, at least one cross-connect device and at least two egress devices.

5. (Canceled)

6. (Currently amended) The method of claim 1 wherein the interface includes a listing of the integrated circuits and permits user control of one or more configurable parameters of each of the integrated circuits.

7. (Canceled)

8. (Previously presented) The method of claim 1 wherein the configurable parameters comprise a switching capacity of the switch fabric.

9. (Previously presented) The method of claim 1 wherein the configurable parameters comprise a configuration type of the switch fabric.

10. (Previously presented) The method of claim 1 wherein the interface permits user selection of one of a centralized configuration, a stackable configuration and a distributed configuration for the switch fabric.

11. (Previously presented) The method of claim 1 wherein the configurable parameters comprise a number of ports of the switch fabric.

12. (Previously presented) The method of claim 1 wherein the software-based development tool comprises an automatic configuration generation module which generates the simulation configuration for the switch fabric based on the current values of the configurable parameters.

13. (Previously presented) The method of claim 1 wherein the simulation configuration is generated utilizing an object-oriented programming construct comprising a base class, corresponding to a base device specified for the plurality of integrated circuits, and an associated generation interface.

14. (Previously presented) The method of claim 13 wherein the generation interface declares a generate function that is implemented by each of a plurality of generators, each of the plurality of generators corresponding to a different configuration of the switch fabric.

15. (Previously presented) The method of claim 14 wherein the plurality of generators comprises a centralized configuration generator, a stackable configuration generator and a distributed configuration generator, corresponding to respective centralized, stackable and distributed configurations of the switch fabric.

16. (Original) The method of claim 1 wherein the software-based development tool runs at least in part on an information processing device comprising a processor and an associated memory.

17. (Previously presented) The method of claim 1 wherein the software-based development tool comprises a simulator control module, a set of interfaces, and circuit element modules each corresponding to an associated one of the integrated circuits.

18. (Currently amended) An apparatus for simulating the operation of at least one switch fabric comprising a plurality of integrated circuits of a designated chip set, the apparatus comprising:

an information processing device having a processor and a memory;

the information processing device implementing a software-based development tool providing an interface permitting user control of one or more configurable parameters of the switch fabric, the development tool being operative to automatically generate a simulation configuration for the switch fabric based on current values of the configurable parameters;

the simulation configuration being generated without requiring further user input;

the simulation configuration specifying interconnections between the integrated circuits which satisfy the current values of the configurable parameters;

wherein the one or more configurable parameters of the switch fabric comprise one or more configurable parameters of each of the integrated circuits and one or more configurable parameters of a base device specified for the designated chip set;

wherein each integrated circuit of the designated chip set corresponds to a specified ingress device, a specified cross-connect device or a specified egress device; and

wherein the one or more configurable parameters of a given integrated circuit are determined by the correspondence of the given integrated circuit to the specified device.

19. (Currently amended) An article of manufacture comprising a storage medium containing one or more software programs for use in simulating the operation of at least one switch fabric comprising a plurality of integrated circuits of a designated chip set, utilizing a software-based development tool, wherein the one or more software programs when executed implement the steps of:

providing in the software-based development tool an interface permitting user control of one or more configurable parameters of the switch fabric; and

automatically generating a simulation configuration for the switch fabric based on current values of the configurable parameters;

the simulation configuration being generated without requiring further user input;

the simulation configuration specifying interconnections between the integrated circuits which satisfy the current values of the configurable parameters;

wherein the one or more configurable parameters of the switch fabric comprise one or more configurable parameters of each of the integrated circuits and one or more configurable parameters of a base device specified for the designated chip set;

wherein each integrated circuit of the designated chip set corresponds to a specified ingress device, a specified cross-connect device or a specified egress device; and

wherein the one or more configurable parameters of a given integrated circuit are determined by the correspondence of the given integrated circuit to the specified device.

20. (New) The method of claim 1 wherein the interface permits user selection of each of a centralized configuration, a stackable configuration and a distributed configuration for the switch fabric.

21. (New) The method of claim 1 wherein the one or more configurable parameters of the switch fabric comprise a clock speed of at least a given one of the integrated circuits and a clock speed of the base device specified for the designated chip set.

22. (New) The method of claim 8 wherein the switching capacity of the switch fabric determines a number of integrated circuits included in the switch fabric.

23. (New) The method of claim 1 wherein each integrated circuit has at least one block function associated therewith.